

Sweet Scientists

3rd to 5th Activity Newsletter

The journey of milk from cows to ice cream begins on a dairy farm. Cows are milked two to three times a day, depending on the farm management. The milk is pumped into a cooling tank and then into a milk truck to be delivered to the facility where ice cream is made. There, the cream and milk are separated from each other.

The basic ingredients—cream, milk, and sugar—are mixed together and then pumped into a **pasteurizer**, where it is heated. The hot mixture is shot through a **homogenizer** where pressure breaks down the milkfat into smaller particles. This allows the mixture to stay smooth and creamy. The mixture is sent to a freezer with spinning blades that force air into the mix which prevents the ice cream from freezing solid. The next step is to add flavorings before packaging the ice cream in containers. After mixing in the flavors and other items like chocolate, nuts, and marshmallows, the ice cream is moved to a hardening room where it is frozen. The ice cream is now ready for distribution to stores or restaurants in refrigerated trucks.

Information courtesy of National Agriculture In the Classroom.

Farmers help take care of a__i__als and the land. Some dairy farmers help the en__iron__ent by re__yc__ng the waste from dairy cows with a ma__ine called a methane digester. This machine turns the w__st__ into energy to produce elec__icity. The liquids and solids from the digester can be used to fe__tili__e plants, which helps produce the f__uits, ve__eta__es, and __ains we eat along with dairy products to stay h__alt__y. These foods go into the school lun__es you eat each day.

(Courtesy of Floridamilk.com from Farm to Table Lesson Activity 1.)

Draw a cartoon that represents the paragraph you completed!



Materials:

- Zip-top bags: 2 quart-sized + 1 gallon-sized
- 1/4 cup cream
- 1/4 cup milk
- 1 tbsp sugar
- 3/4 tsp vanilla extract
- 4-5 cups of ice
- 1/3 cup salt (rock salt or large granules work best)

Optional:

- Favorite toppings (cookies, fruit, sprinkles, whipped cream, chocolate, strawberry, caramel syrups, etc.)

Incredible Ice Cream

Instructions:

1. Bag it! - Pour the cream, milk, sugar and vanilla extract into one quart-sized bag and seal. Tip: Double bag to avoid spills.
2. Ice it! - Add the ice and salt to the gallon-sized bag, then put the quart-sized bag into the bag of ice.
3. Shake it! - Seal the bag, and shake for 5 to 10 minutes. Remove the quart-sized bag, and throw away the gallon bag.
4. Top it! - Optional: Spoon into a bowl, add your favorite toppings to your ice cream and enjoy!

Name your creation: _____

Write 3 descriptive sentences about your ice cream creation.

Yummy Yogurt

Materials:

- 1/2 gallon of milk
- 1 packet yogurt starter culture or 4 tablespoons pre-made yogurt
- 40 - 2 ounce recycled baby food jars with lids or canning jars.
- 8" by 11" baking sheet

Optional:

- Your favorite toppings (fruit, nuts, honey, etc.)

Yogurt Facts:

- Yogurt was created by accident. Many historical accounts attribute the origins of this creamy treat to primitive methods of milk storage in containers made of animal stomachs. The natural enzymes curdled the milk resulting in what we now know as yogurt.
- Yogurt is alive with "good" bacteria called *lactobacillus bulgaricus* and *streptococcus thermophilus* which improves digestive health.

Instructions:

1. Heat it! - Heat milk on a stove top or portable burner over medium heat until reaches 180 degrees F.
2. Cool it! - Pour heated milk into clean shallow pan to cool, either by sitting on the counter or in a cool water bath until the temperature drops to 115 degrees F.
3. Stir it! - Add the pre-made yogurt, or yogurt starter culture and lightly stir enough to incorporate into the milk.
4. Pour it! - Pour into clean jars, and place on a cookie sheet in the oven (with the light on) for 12-24 hours. The light provides a consistent heat of 110 degrees F.
5. Chill it! - Put jars into the refrigerator until the yogurt is cold. Let it set for approximately 4 to 6 hours.

Optional:

6. Add your favorite fruit and toppings and make it your own creation!

YOGURT



is a great tasting dairy food made from milk and often flavored with fruit. It's fun and easy to eat right out of the package. Unscramble the letters below to find some popular yogurt flavors.

RBRYUELEB _____

RYHERC _____

YTRRWABRSE _____

HAPCE _____

NABNAA _____

CIPTOAR _____

EPRYASRBR _____

WIIK RBTWASRYRE _____

GEARON GAMNO _____

Visit floridamilk.com for more information.

Instructions:

1. Pour it! - Have students measure and pour 1 cup of heavy whipping cream into large mixing bowl.
2. Flavor it! - Add in sugar and vanilla, or another fun flavor you may want to try.
3. Mix it! - Students can take turns with the electric mixers. Make sure to keep it down in the bowl or it will fly everywhere!
4. Divide it! - Put an equal amount of whipped cream into each small bowl.
5. Color it! - Add in a drop of your favorite food color, swirl it and enjoy!

Wild Whipped Cream

Materials: (per group)

- 1 cup heavy whipping cream
- 1/2 tsp sugar
- 1/2 tsp vanilla extract
- Mixer (stand or handheld) A whisk will not work.
- Large mixing bowls (1 for each group)
- Small bowls - 1 for each student

Optional:

- Food coloring



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